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Packaging bag for liquid, pasty or granular

Fabrics the invention relates to a packaging bag for liquid, pasty or granular fabrics, existing from four in the region of their side edges as well as its Unterend upper edges sealing connected with one another foil sections from flexible material to the formation of front wall, one rear wall and two side walls, which limit the interior of the bag between itself.

A such packaging bag is as free standing bags known and for example in DE-GM 92 07 558 described.

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Flachbeutel that is called bags, which do not stand for free, but after the filling for example located in Warenregalen or at goods stands suspended presented become, consist generally of only two connected with one another foil sections at their side edges, which limit the interior of the bag between itself. Such Flachbeutel become major for the distribution of product patterns and for the package of relative small amounts of liquid, pasty or granular fabrics used.

It turned out that extraordinary adverse with such Flachbeuteln constructed from two foil sections the ratio of the required foil quantity, which is expressed in the total area of the required films is to the volume of the bag.

Thus for example a Flachbeutel, which is from two foil sections with in each case 7, 5mm x 10, 5cm edge length manufactured, possesses one volume of 5ml for the product with a total area of the foil sections of 157, 5cm² only. This means a ratio film/product of 31,5.

In the region of the package of retail trade products at present a very strong legal and ecological pressure exists regarding the reduction of the amount of the packaging material.

The invention is the basis the object, a packaging bag, that initially and in the preamble of the

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To train requirement for protection 1 indicated type in such a way the fact that it possesses as favourable a ratio as possible film/product as Flachbeutel and the same base/packing-large and the form of conventional Flachbeutel maintains.

The solution happens according to invention with the features from the characterizing portion of the requirement for protection 1. Favourable developments are in the dependent claims described.

The principle of the invention consists of developing the known packaging bag formed as free standing bag so more other that it becomes if possible the Flachbeutel with an optimum ratio film/product. An essential feature of the bag according to invention consists of the fact that the width of each side wall at the most the half, preferably at the most one third of the width Vorder-bzw.

Rear wall amounts to and those in each case four foil sections connected so with one another is that as good a dimensional stability as possible is opened during optimum space utilization achieved will and that the possibility if necessary to arrange to Ober-und/or underside of the bag hanging up mechanisms as well as at the top a reclosable removal opening.

It turned out that the ratio film/product can be improved due to the formation according to invention of the bag significant. One adds

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for example in the manner according to invention into a Flachbeutel between the foil sections of the front wall and the rear wall with the measures train 7,5cm x 10,5cm of side walls with a width of only, then the volume of this Flachbeutels already covers 15ml. This means a ratio films/product of 11,9, i.e., the ratio is better around the factor 3.

In another typical example a conventional Flachbeutel from two foil sections with the dimensions 8,5cm x 16,5cm possesses a foil-flat of 280, 5cm² with a volume of approx. 30ml. This means a ratio films/product of 9,55. If one inserts side walls with the width of 2cm into this Flachbeutel, so enlarged itself the foil-flat on 346, 5cm² and the bag has now a volume of approx. 75ml with a ratio films/product of 4,62, an improvement around the factor 2 means.

It is shown that with the packaging bag according to invention in relation to a conventional Flachbeutel a small increase of the foil quantity leads to a considerable increase of the volume.

Further the optimal presentation of the product filled into the packaging bags can be improved with the packaging bag according to invention decisive, if the packaging bag the corresponding requirements for protection 5 or 6 formed. The particular arrangement in the region of the underside

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the bag intended additional sweat or stick-stitched has to the succession that the lower corners of the packaging bag no product occurs. This has to the succession that during the presentation of the bag in the hung up state the content cannot sag complete into the lowest region and produce thus an unpleasantly acting widening of the bag at the underside. By the additional sweat or stick-stitched on the bag walls the forces become better distributed in the hung up state, so that the bag keeps a substantial more stretched form, without very much volume lost goes.

In the following an embodiment for a packaging bag becomes after the invention more near explained on the basis the accompanying designs.

In the designs show:

Fig. 1 a packaging bag in a view on the front wall;

Fig. 2 the packaging bag after Fig. 1 in the crosswise cut;

Fig. 3 the packaging bag after Fig. 1 and 2 in a perspective view.

The packaging bag represented in the designs possesses a front wall 1, a rear wall 2, as well as

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Side walls 3 and 4, which are constructed from rectangular foil sections. The foil sections are 4,2 connected so at their vertical edges over narrow Schweissoder stick-stitched 3,1, 3,2, 4,1 and with one another that the two outer edges of the connected with one another in each case foil sections

point into the same direction. At the top and at the underside in each case all foil sections are stick-stitched by interconnecting, somewhat with one another broader sweat or 5 and 6 provided. The two side walls 3 and 4 of the bag are so formed that the foil section is inward in-folded, which by in Fig. 1 and 2 visible folds 3,3 and 4,3 is clarified. The overall width b of each side wall 3 and/or. 4 amounts to in the represented embodiment approx. the half of the width B of the front wall 1. The wide relationship can become however easily also small selected.

In the upper edge of the bag provided with a broader sweat or sticking seam 5 a hanging up opening is 7,1 provided. As in Fig. 1 dotted shown, can be this hanging up opening or an additional suspension 7,2 also in sweat or the sticking seam 6 at the bottom edge of the bag provided.

As from Fig. 1 to see, possesses the represented bag in the region of its underside additional in each case sweat or stick-stitched 8,1 and 8,2, those from the center of the bottom edge of the side wall into that

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Regions of the folds 3,3 and/or. 4,3 from a bottom predetermined acute angle A rising to the being tenkanten 3,1, 3,2 and/or. 4,1 and 4,2 run and along this course in each case the one half of the foil section 3 with the front wall 1 and the other half with the rear wall 2 connect, while in analogous manner the one half of the foil section 4 with the front wall 1 and the other half with the rear wall 1 is 2 connected. The angle A amounts to in the represented embodiment approx. 70°. The arrangement of this additional sweat or stick-stitched has to the succession that with the filled one of a product this cannot arrive into the lower corners of the bag and thus in the bottom portion of the bag only in Fig. 1 trapezoidal appearing part of the bag is filled with the product. This has to the succession that become better distributed when hanging the bag up in the filled state on the bag walls the forces, in such a manner that no excessive widening of the lower part arises, which would give an unpleasant appearance to the bag.

As from the designs to be likewise inferred, the represented bag can be provided additional with a reclosable removal opening. This is above all convenient, if the bag is intended to the receptacle of liquid or pasty fabrics. For this purpose the bag exhibits opening-lax 9, those in a sealed separation 9,2 from the remaining bag separated is and at their outer end with one outline or cutting off catch 9,1

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sealed is. On the inside possesses the touch-like opening-lax 9 an outlet duct 9,3, by which after cutting or tearing the closure off 9,1 the content removed can become. For the relocking of the bag by the front wall and the rear wall 2 more passing through, a holding slot 10 sealed opposite the interior of the bag, whose length is the opening-lax adapted to the width of the opening-lax 9 and its width to the thickness, serves 1. The holding slot 10 runs parallel to the direction of the opening-lax 9 and is so disposed that, as in Fig. 1 dash-dotted indicated, which can be umgefaltet opening-lax 9 and be pulled through in the layer 9' the holding slot 10 with a part of their length. Thus the bag becomes again sealed along the umgefalteten line 9,4. By withdrawal of the opening-lax 9 from the holding slot 10 the bag can become again opened.